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TITLE: Siding System

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DOC NO.: 14190

BACKGROUND OF THE INVENTION

20 1. Field of the Invention

The invention generally relates to a siding system, and in particular relates to a siding system which employs a plurality of siding assemblies, each capable of being 25 selectively attached to other siding assemblies in a series.

2. Description of the Related Art

Siding is an important part of the waterproofing system 30 of a building, and in particular is used for protecting the external surfaces of many millions of homes from damaging environmental factors, including rain, snow, and sunlight.

Commonly made of aluminum, and in recent years more commonly made of vinyl, the advantages of siding are many, and include longevity and low maintenance. However, such modular siding has its disadvantages. In particular, installation of siding 5 is a labor intensive and time consuming task. Furthermore, removal of damaged portions of the siding and replacement of the damaged portion with undamaged siding is also a difficult procedure. Accordingly, there is a need for a siding assembly which is provided as a number of interlocking 10 assemblies, each having a wall bracket and an associated siding panel, wherein the siding assemblies are easily installed upon an existing support structure, and wherein damaged panels of the siding assembly are easily removable by a user by simply pulling the panel away from its associated 15 wall bracket and from the wall bracket of the next lower siding assembly in the series.

A variety of siding assemblies have been devised. For example, United States Patent No. 3,188,774 to McCorkle appears to show a metal siding attached with a connector to a 20 frame, wherein individual siding assemblies within a series of the siding assemblies are selectively removable for repair. Additionally, United States Patent No. 5,349,802 to Karinimei appears to show a siding assembly having a fastener using inserts and channels. Moreover, United States Patent 25 No. 3,593,479 to Hinds appears to show a siding assembly capable of interlocking with other similar units, having a tapered bottom edge.

While these devices may be suitable for the particular purpose employed, or for general use, they would not be as suitable for the purposes of the present invention as disclosed hereafter.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a siding system that is easily installed onto an existing support structure. Accordingly, the siding system employs a plurality of siding assemblies that each comprise a wall bracket and an associated siding panel. The wall bracket is selectively and easily attached to the support structure, and is capable of selectively engaging its associated siding panel and also the siding panel of the next higher siding assembly in the series, thereby providing a siding assembly which is easily installed onto the existing support structure.

It is another object of the invention to provide a siding assembly having siding panels which are easily replaced when damaged. Accordingly, a damaged panel may be easily removed by a user by pulling the panel away from the wall bracket of the next lower siding assembly in the series, and then by pulling it from its associated wall bracket. After removal of the damaged panel, an undamaged panel is simply inserted in its place.

Further objects of the invention will become apparent in the detailed description of the invention that follows.

The invention is a siding system which employs a plurality of siding assemblies, each capable of being selectively attached to other siding assemblies in a series. Each siding assembly has a wall bracket for selective

attachment to a support structure such as a wall, and an associated siding panel. Each wall bracket is selectively attachable to its own associated siding panel and to the next higher siding panel of the series. When damaged, the
5 individual siding panels are easily detached from the wall brackets and quickly replaced with an undamaged panel.

To the accomplishment of the above and related objects the invention may be embodied in the form illustrated in the accompanying drawings. Attention is called to the fact, 10 however, that the drawings are illustrative only. Variations are contemplated as being part of the invention, limited only by the scope of the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, like elements are depicted by like reference numerals. The drawings are briefly described as 5 follows.

FIG 1 is a perspective view of two siding assemblies, after selective attachment to a support structure and to one another.

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FIG 2 is a cross-sectional view taken along line 2-2 of FIG 1, illustrating the two siding assemblies, and additionally illustrating a siding panel of a third siding assembly positioned for selective attachment to the wall 15 bracket of the upper of the two attached siding assemblies.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG 1 illustrates a siding system 40, comprised of a plurality of siding assemblies 10. Two such siding assemblies 10 are illustrated in FIG 1, after selective attachment to one another and to a vertical support structure 22 such as a wall. The vertical support structure 22 has an upper portion 22U and a lower portion 22L. Each siding assembly 10 comprises a wall bracket 12 and an associated siding panel 14 having a top 14T and a bottom 14B. Of the two siding assemblies 10 illustrated, one is uppermost and one is lowermost. The uppermost siding assembly 10 is attached to the support structure 22 by its associated wall bracket 12 at a position which is more proximal to the upper portion 22U of the support structure 22. The lowermost siding assembly 10 is attached to the support structure 22 by its associated wall bracket 12 at a position which is more proximal to the lower portion 22L of the support structure 22. As illustrated, while being deployed to cover the support structure 22, the siding assemblies 10 are arranged in a series, wherein the siding panels 14 of adjacent siding assemblies 10 in the series are arranged in a "head-to-tail" series, wherein the top 14T of one panel 14 substantially abuts the bottom 14B of the next uppermost siding panel 14 in the series. Also as illustrated, after selectively attaching the siding assemblies 10 to the support structure 22, the top 14T of each panel 14 is closer to the upper portion 22U of

the support structure 22, and the bottom 14B of each panel 14 is closer to the lower portion 22L of the support structure 22. Each of the two siding panels 14 has been attached to its associated wall bracket 12 by selectively attaching the 5 top 14T of the panel 14 to said wall bracket 12, as will be described in further detail hereinafter. Furthermore, each siding panel 14 is attachable at its bottom 14B to the wall bracket 12 of the next lower siding assembly 10 of the series, as will also be described in further detail.

10 The wall bracket 12 has a substantially rectangular attachment plate 13 having a top 13T, a bottom 13B, a first side 13C, a second side 13D, a front surface 13F, and a rear surface 13R. The attachment plate 13 has a pair of circular openings 32 extending fully between the front surface 13F and 15 the rear surface 13R. The wall bracket 12 is selectively attached to the support structure 22 by placing the rear surface 13R of the attachment plate 13 flush against the support structure 22, by extending a nail 20 into each of the circular openings 32, and by driving the nails 20 into the 20 support structure 22. Alternatively, the user may use threaded screws to selectively attach the wall brackets 12 to the support structure 22.

The attachment plate 13 of each wall bracket 12 has an outwardly projecting substantially cylindrical flange 16 for 25 selectively engaging the bottom 14B of the siding panel of the next higher siding assembly 10 in the series, as will be described. The wall bracket 12 has a substantially

rectangular outwardly projecting lip 34 extending partially downward from the front surface 13F of the attachment plate 13, thereby forming an acute angle with the attachment plate 13. The lip 34 extends at least partially between the first 5 13C and second sides 13D of the attachment plate 13. The lip 34 extends from the attachment plate 13 at a position between the top 13T and the bottom 13B of the attachment plate 13, thereby forming a substantially triangular tab engagement channel 36 capable of selectively engaging the top 14T of the 10 siding panel 14 associated with that particular wall bracket 12, as will be described.

The siding assembly 10 further comprises a substantially rectangular "double lap" siding panel 14 having an upper flap 14G, a lower flap 14H, and a lateral fold 24 which segments 15 the panel 14 into the upper flap 14G and the lower flap 14H. The panel 14 has a top edge 14U, a bottom edge 14L, and a locking tab 18 in proximity to its top edge 14U. The lower flap 14H has a front surface 14K, a rear surface 14M, and two opposing sides 14S. Analogously, the upper flap 14G has a 20 front surface 14J, a rear surface 14P, and two opposing sides 14S. The substantially triangular locking tab 18 of the siding panel 14 selectively engages the tab engagement channel 36 of its associated wall bracket 12. The locking tab 18 extends at least partially between the sides 14S of 25 the upper flap 14G. In FIG 1, each of the two siding assemblies 10 has been assembled by the user by attaching each wall bracket 12 to its associated siding panel 14 by

selectively inserting the locking tab 18 of the panel 14 into the tab engagement channel 36 of the wall bracket 12. Furthermore, the two siding assemblies 10 have been selectively attached to one another, as will now be 5 described.

FIG 2 illustrates two siding assemblies 10, after selective attachment to the support structure 22 and to each other. FIG 2 additionally illustrates a third siding panel 14 positioned for selective attachment to the wall bracket 12 10 of the uppermost of the two siding assemblies 10. In particular, the bottom edge 14L of the panel 14 has a substantially horizontal segment 32 extending inwardly toward the support structure 22, having a diagonal channel attachment piece 39 extending upwardly therefrom. The 15 attachment piece 39 has an attached substantially hollow cylindrical channel 26 having an opening 27, for selectively engaging the outwardly projecting cylindrical flange 16 of the uppermost wall bracket 12. The siding panel 14 is selectively attached to the wall bracket 12 by snapping the 20 cylindrical channel 26 onto the cylindrical flange 16 by the user by pushing the bottom edge 14L of the panel 14 toward the wall bracket 12.

The panels 14 illustrated in both FIG 1 and FIG 2 are "double lap" panels, having a lateral fold 24 in the siding 25 panel 14 which segments the panel 14 into a substantially rectangular upper flap 14G and a substantially rectangular lower flap 14H. After selective attachment of the siding

assembly 10 to the support structure 22, the rear surface 14P of the upper flap 14G and the rear surface 14M of the lower flap 14H do not substantially contact the support structure 22. Rather, each of the flaps, 14G and 14H, forms an acute 5 angle with the vertical support structure 22, thereby providing a structure ideally configured for effectively shedding rain water and snow, thereby preventing water damage and prolonging the life of the underlying support structure 22. In an alternate embodiment, the siding panels 14 are 10 "single lap" panels. In such an embodiment, the siding panel 14 has no fold 24, and the front surface of the panel 14 comprises one continuous substantially planar surface. In such an embodiment, after selective attachment to the vertical support structure 22, the front surface of the panel 15 14 extends downward from the vertical support structure 22 at an acute angle, as in the "double lap" embodiment illustrated in the drawing figures, thereby providing a siding assembly 10 capable of effectively shedding rain water and snow.

The siding panels 14 of the siding assemblies 10 are 20 preferably constructed from aluminum or vinyl. The wall brackets 12 are preferably constructed from a strong, durable metal such as vinyl, aluminum, or steel. The siding assemblies 10 are provided in a variety of shapes and sizes, in order to allow the user to choose a siding assembly 10 25 which is most appropriate for the particular support structure 22 which is to be covered by the siding assemblies 10. The user generally uses a plurality of the siding

assemblies 10 in order to substantially cover the vertical support structure 22 with the siding assemblies 10. The precise number of siding assemblies 10 used obviously depends upon the total surface area that the user desires to cover 5 with the siding assemblies 10.

In use, the user assembles the first siding assembly 10 to be attached to the support structure 22 by selectively attaching the siding panel 14 to its associated wall bracket 12 by selectively engaging the locking tab 18 positioned in 10 proximity to the top edge 14U of the siding panel 14 with the tab engagement channel 36 of the associated wall bracket 12. The user attaches the wall bracket 12 to the support structure 22 at a position in proximity to the lower portion 22L of the support structure 22, by extending a nail 20 into 15 each of the two circular openings 32 extending fully from the front surface 13F to the rear surface 13R of the attachment plate 13, and by driving the nails 20 into the support structure 22. The user assembles the next siding panel 14 in the series in the same manner in which the first siding 20 assembly 10 was assembled. The user then attaches said next siding assembly 10 to the first siding assembly 10 by snapping the cylindrical channel 26 located in proximity to the bottom 14B of the panel 14 of said next siding assembly 10 onto the cylindrical flange 16 of the wall bracket 12 of 25 the first siding assembly 10. The user then attaches the wall bracket 12 of said next siding assembly 10 to the support structure 22 in the same manner used for attaching

the wall bracket 12 of the first siding assembly 10 to the support structure 22. The user repeats the steps of assembling a given siding assembly 10 and attaching the siding assembly 10 to the support structure 22 and to the

5 next lower siding assembly 10 in the series, until the support structure is covered by the requisite number of siding assemblies 10. In the event of subsequent damage to one of the siding panels 14, the damaged siding panel 14 is easily removed by the user from its associated wall bracket

10 12 and from the wall bracket 12 of the next lower siding assembly 10 in the series, by pulling the bottom 14B of the damaged panel 14 away from the support structure 22 and thereby disengaging the cylindrical channel 26 of the damaged panel 14 from the cylindrical flange 16 of the wall bracket

15 12 of the next lower siding assembly 10 in the series, and by disengaging the locking tab 18 positioned in proximity to the top edge 14U of the damaged panel 14 from the tab engagement channel 36 of its associated wall bracket 12. The user then selectively attaches an undamaged siding panel 14 to the wall

20 bracket 12 associated with the damaged panel 14, and to the wall bracket 12 of the next lower siding assembly 10 in the series, by first engaging the locking tab 18 of the undamaged panel 14 with the tab engagement channel 36 of the wall bracket 12 associated with the damaged panel 14, and then by

25 pushing the bottom of the panel 14 towards the support structure 22, thereby engaging the cylindrical channel 26 of the undamaged panel 14 with the cylindrical flange 16 of the

wall bracket 12 of the next lower siding assembly 10 in the series.

In conclusion, herein is presented a siding system, comprised of a plurality of substantially identical siding 5 assemblies, for selective attachment to an existing vertical support structure. The invention is illustrated by example in the drawing figures, and throughout the written description. It should be understood that numerous variations are possible, while adhering to the inventive 10 concept. Such variations are contemplated as being a part of the present invention.